

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of expression of a computer object,  
~~comprising~~ comprising:  
~~\_\_\_\_\_ a step of linking a plurality of colors~~ different color numerical values provided  
~~in advance~~ with a plurality of computer objects handled involving in a computer respectively  
~~and expressing the plurality of computer objects by different colors~~ by a first corresponding  
table; and  
\_\_\_\_\_ linking a plurality of colors provided in advance with the plurality of different  
color numerical values respectively by a second corresponding table,  
\_\_\_\_\_ wherein each of the plurality of computer objects is expressed by the different  
color numerical values or the colors.
2. (Currently Amended) A method of expression of a computer object as set forth in claim 1, wherein a computer object is expressed by the attribute of a color printed on one or more dots on a recording ~~medium~~ medium, which is corresponded to the computer  
object, based on the linkage relation a third corresponding table ~~between said the computer~~  
~~object-objects and said color~~ the colors.
3. (Original) A method of expression of a computer object as set forth in claim 2, wherein said recording medium is made of any of paper, plastic panel, glass, wood panel, ceramic panel, a sheet, a liquid crystal panel, a medium able to be recorded as color, and combinations of the same.
- 4-5. (Canceled)
6. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in ~~claim 4,~~ claim 1, further comprising: ~~a step of~~

\_\_\_\_\_ setting a maximum allowable range of number of elements ~~of said~~ included in the different color numerical values considering the reproducibility of ~~said color~~ the color and setting ~~said the different~~ color numerical values in ~~that~~ the maximum allowable range.

7. (Withdrawn-Currently Amended) A method of expression of a computer object, ~~comprising~~ set forth in claim 1, further comprising:

\_\_\_\_\_ ~~a step of~~ establishing a plurality of computer object ~~groups,~~ groups concerning the computer objects,

\_\_\_\_\_ ~~a step of~~ establishing a correspondence between the different color numerical values and the computer objects having a different correspondence for each of ~~said the~~ plurality of computer object groups, and

\_\_\_\_\_ ~~a step of~~ arranging all of ~~said the~~ computer objects to be handled at one of the plurality of computer object groups so as to improve the ease of use of ~~said the~~ computer objects.

8. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 7, further comprising:

~~a step of~~ designating the plurality of computer object groups as first hierarchy groups, dividing the first hierarchy groups into further groups to establish a plurality of second hierarchy groups when the number of the first hierarchy groups becomes large, and including each of the first hierarchy groups in one of the second hierarchy groups;

~~a step of~~ similarly successively establishing third hierarchy groups, fourth hierarchy groups, etc.; and

~~a step of~~ linking the colors with the different hierarchies of groups so as to form an arrangement improving the ease of use of the computer objects.

9. (Withdrawn-Currently Amended) A method of expression of a computer object, as set forth in claim 2, further comprising ~~a step of:~~

\_\_\_\_\_ establishing cyclic object ~~relations comprised of~~ relations, the cyclic object relations including:

\_\_\_\_\_ a color numerical value ~~computer object relation, relation of the first~~ corresponding table;

\_\_\_\_\_ a color-color numerical value ~~relation, relation of the second corresponding~~ table; and

\_\_\_\_\_ a color-computer object relation of the third corresponding table,

\_\_\_\_\_ wherein the cyclic object relations are established so that the computer object after conversion becomes the same as the computer object before conversion, when converting a the computer object to a the color numerical value, value by the first corresponding table, converting the color numerical value to a ~~color,~~ the color by the second corresponding table, and converting the color to a computer object, object by the third corresponding table. ~~the computer object after conversion becomes the same as the computer object before conversion.~~

10. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 9, further comprising:

\_\_\_\_\_ simultaneously transmitting, transferring, and recording one or more correspondences of the cyclic object relations required for regenerating a the computer object when transmitting, transferring, and recording a the computer object converted to a the color or the color numerical value.

11. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 87, further comprising: ~~a step of~~

\_\_\_\_\_ designating a as common objects, the computer objects ~~designed to be able~~ express-being capable of being expressed by their combination all types of computer objects included in any certain hierarchy of groups; and

\_\_\_\_\_ using these common objects to express a series of computer objects.

12. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 11, further comprising:

\_\_\_\_\_ establishing common object ~~relations~~ relations, the common object relations including comprised of a color-computer object relation, a color numerical value-computer object relation, and a color-color numerical value relation between common colors and common color numerical values in correspondence with the common objects; and

\_\_\_\_\_ using these to transmit, transfer, record, and regenerate the series of computer objects converted to the common color numerical values or the common colors.

13. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 12, further comprising:

\_\_\_\_\_ simultaneously adding a common object relation when transmitting, transferring, and recording a computer object using ~~a~~ the common color or the common color numerical value.

14. (Withdrawn-Currently Amended) A method of expression of a computer object as set forth in claim 13, further comprising:

\_\_\_\_\_ including the common object relations in the cyclic object relations; and

\_\_\_\_\_ using these to transmit, transfer, record, and reproduce a series of computer objects converted to the color numerical values or the colors.

15. (Withdrawn) A method of recording a computer object by a computer handling a plurality of computer objects, comprising:

converting a computer object to a color based on a predetermined correspondence between colors and computer objects when recording a computer object and recording a color entity on a recording medium.

16. (Withdrawn) A method of recording a computer object as set forth in claim 15, further comprising using a correspondence of colors and color numerical values and a correspondence of color numerical values and computer objects when converting said computer object to said color or when converting said color to said computer object.

17. (Withdrawn) A method of recording a computer object as set forth in claim 16, further comprising establishing a maximum allowable range of number of elements of said color numerical values considering the reproducibility of the colors and setting color numerical values within that range.

18. (Withdrawn) A method of recording a computer object as set forth in claim 15, further comprising, for output of said color entities, assigning addresses to a recording surface of a recording medium and arranging color dots in accordance with those address.

19. (Withdrawn) A method of recording a computer object as set forth in claim 18, further comprising designating an order of output and input of color entities by addresses.

20. (Withdrawn) A method of recording a computer object as set forth in claim 16, further comprising using a communications means to establish links in the correspondence between colors and computer objects.

21. (Withdrawn) A method of recording a computer object as set forth in claim 18, further comprising, for arrangement of the color dots, dividing a recording output surface of the recording medium into a control area, storage area, security area, and other areas and enabling these areas to be freely arranged.

22. (Withdrawn) A method of recording a computer object as set forth in claim 16, further comprising using color numerical values to enable two-way transmission

and reception of computer objects and enable recording of computer objects or checking and updating of the content of transmission.

23. (Withdrawn) An apparatus for recording a computer object provided in a computer handling a plurality of computer objects, comprising:

a processor for converting a computer object to a color based on a predetermined correspondence of colors and computer objects and issuing a color output instruction when there is a command for recording a computer object from among the plurality of computer objects and

a color output device for recording a color entity on a recording medium in accordance with said color output instruction.

24. (Withdrawn) An apparatus for recording a computer object as set forth in claim 23, further comprising using a correspondence of colors and color numerical values and a correspondence of color numerical values and computer objects when converting said computer object to said color or when converting said color to said computer object.

25. (Withdrawn) A method of reproducing a computer object by a computer handling a plurality of computer objects, comprising:

reading a color of a color dot on a recording medium and inputting it to said computer;

regenerating the computer object from said input color based on a correspondence between colors and computer objects; and

outputting said regenerated computer object.

26. (Withdrawn) A method of reproducing a computer object as set forth in claim 25, further comprising using a correspondence of colors and color numerical values and a correspondence of color numerical values and computer objects when converting said computer object to said color or when converting said color to said computer object.

27. (Withdrawn) A method of reproducing a computer object as set forth in claim 26, further comprising establishing a maximum allowable range of number of elements of said color numerical values considering the reproducibility of the colors and setting color numerical values within that range.

28. (Withdrawn) An apparatus for reproducing a computer object provided in a computer handling a plurality of computer objects, comprising:

a color input device for reading a color of a color dot on a recording medium and inputting it to said computer;

a processor for regenerating the computer object from said input color based on a correspondence between colors and computer objects; and

an output device for outputting said regenerated computer object.

29. (Withdrawn) An apparatus for reproducing a computer object as set forth in claim 28, further comprising using a correspondence of colors and color numerical values and a correspondence of color numerical values and computer objects when converting said computer object to said color or when converting said color to said computer object.

30. (Withdrawn) An apparatus for recording and reproducing a computer object provided in a computer handling a plurality of computer objects, comprising:

a color input device for reading a color of a color dot on a recording medium and inputting it to said computer;

a processor for converting a computer object to a color based on a predetermined correspondence of colors and computer objects and issuing a color output instruction or regenerating a computer object based on the correspondence of colors and computer objects when there is a command for recording a certain computer object among a plurality of computer objects;

a color output device for recording a color entity on said recording medium in accordance with the color output instruction; and

an output device for outputting said regenerated computer object and both recording and reproducing said computer object.

31. (Withdrawn) An apparatus for recording and reproducing a computer object as set forth in claim 30, further comprising using a correspondence of colors and color numerical values and a correspondence of color numerical values and computer objects when converting said computer object to said color or when converting said color to said computer object.

32. (Withdrawn) A method of communication of a computer object among a plurality of computers comprising transmitting the computer object over a network or transferring it by a data storage medium using a color numerical value, regenerating from a received color numerical value the computer object or color in accordance with need using a correspondence of color numerical values and computer objects or correspondence of colors and color numerical values, and thereby not handling the computer object itself over the communication path or transfer path.

33. (Withdrawn) A recording medium comprised of paper, plastic, glass, wood, ceramic, a sheet, a liquid crystal panel, a medium able to be recorded as color, or a combination of the same and able to output a color entity for expressing a computer object.

34. (Withdrawn) A recording medium as set forth in claim 33, wherein a coating is used to prevent discoloration of the color entity.

35. (Withdrawn) A recording medium as set forth in claim 33, wherein the shape of the recording medium or the shape of arrangement of color dots on it is made a disk shape, polygonal shape, or any other shape; the recording medium is made any composition; and a color entity output surface of said recording medium is made rotatable or movable in any



direction, the color entity output surface of the recording medium is made movable and stoppable, the recording medium is made able to be detached and held to be driven, rotated, and stopped, and a holder is made rotatable and a color entity made able to be input and output in accordance with rotation of the holder.

36. (Withdrawn) A recording medium as set forth in claim 35, wherein, for the arrangement of the color dots, the recording output surface of the recording medium is divided into a control area, storage area, security area, and other areas and these areas can be freely arranged.

37. (Withdrawn) An apparatus for recording and/or reproducing a computer object comprising a color filter for judging the possibility of acceptance by all or a specific part of the series of colors or color numerical values input by transmission, transfer, recording, and reproduction of computer objects and performing different processing when acceptance is possible and when acceptance is not possible.

38. (Withdrawn) An apparatus for recording and/or reproducing a computer object as set forth in claim 37, wherein said filter provides a filter correspondence table comprised of a list of colors or color numerical values and compares an input color or color numerical value against the filter correspondence table to judge if acceptance is possible.

39. (Withdrawn) An apparatus for recording and/or reproducing a computer object as set forth in claim 37, wherein said color filter further includes a means for displaying data for determination of processing when judging if acceptance is possible for a series of colors or color numerical values or performing processing for returning the data by transmission, transfer, and reproduction.

40. (Withdrawn) A method of recording a computer object comprising assigning a specific function to one or more specific colors based on a color-object relation or independent from a color-object relation to give a function of designating a computer object

group hierarchy, a function of judgement and checking before converting a color entity to a computer object, a security function, etc.

41. (Withdrawn-Currently Amended) A method of recording a computer object as set forth in claim 40, further comprising correcting a change in color over time or correcting a difference in characteristics of input or output of color between color input/output devices by assigning a plurality of color information to one specific color, arranging the designated plurality of colors after a color entity as entities, and enabling correction of colors when reading the color entities.

42. (Withdrawn) A method of recording a computer object comprising recording by linking one or more attributes, selected from among a plurality of attributes including shapes of graphics such as a circle, square, or bar or other printable attributes, in addition to color with a computer object as the attributes of a color entity.

43. (Withdrawn) A method of recording a computer object comprising mixing, on the same recording medium, recording of a computer object by a color entity or color numerical value and recording of a computer object not based on the same.

44. (Withdrawn) A method of recording a computer object comprising establishing a color-object relation or color-color numerical value relation linking a single computer object or color numerical value to a combination of a plurality of different general colors and enabling a single computer object to be recorded on a plurality of color dots arranged continuously or arbitrarily on a recording medium.

45. (Withdrawn) A method of recording a computer object comprising newly establishing a color-object relation or color numerical value-object relation when linking a computer object to each of a plurality of colors or color numerical values when there are a plurality of color entities or color numerical values output in advance or determined for output.

46. (Currently Amended) A method of preparing a code comprising:  
\_\_\_\_\_ -linking each of a plurality of colors provided in advance with information and  
expressing ~~said~~ the information by different colors;  
\_\_\_\_\_ expressing corresponding information by a substance having as an attribute a  
color printed on one or more dots on a recording medium based on the relation of linkage of  
the information and colors; and  
\_\_\_\_\_ assigning addresses to a recording surface of the recording medium on which  
the color is printed, and expressing the information with the color by designating an order of  
output and input of color entities by the addresses.

47-48. (Canceled)

49. (Withdrawn) A method of preparing a code comprising linking different color  
numerical values to information and expressing the information by the color numerical  
values.

50. (Withdrawn) A method of preparing a code as set forth in claim 49, further  
comprising assigning a color to a color numerical value and using both of a correspondence  
of color numerical values and information and a correspondence of colors and color  
numerical values to link the information with colors.